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PENSOFT

First record of *Daedalea ryvardeniana* Drechsler-Santos & Robledo (Agaricomycetes, Polyporales, Fomitopsidaceae) in the Caatinga area of Bahia, Brazil

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Abstract

Daedalea ryvardeniana (Agaricomycetes, Polyporales, Fomitopsidaceae) is reported for the first time in the Caatinga area of Bahia. The Caatinga is a phytogeographical domain in Brazil and its diversity of polyporoid fungi is being gradually discovered through the findings of new species and new occurrences.

Key words

Semi-arid region; xerophilic plants.

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Introduction

The Caatinga is a phytogeographical domain comprising mainly small thorny shrubs and trees, with microfilia and some xerophytic features as per Prado (2003). According to Giulietti et al. (2004, 2005), this domain is one of the greatest biological patrimonies in Brazil, bringing together an expressive number of rare and endemic taxa with ecological, cultural, and economic importance. Drechsler-Santos et al. (2010), Gibertoni et al. (2011), Baltazar et al. (2012), Drechsler-Santos et al. (2012a, b), Neves et al. (2013), Drechsler-Santos et al. (2013), Maia et al. (2015), and Drechsler-Santos et al. (2016) reported the occurrence of new polyporoid fungi taxa in some Caatinga regions.

Daedaela ryvardeniana Drechsler-Santos & Robledo (Agaricomycetes, Polyporales, Fomitopsidaceae) is recorded from the Cerrado (Mato Grosso) and Caatinga (Ceará, Paraíba, and Pernambuco), demonstrating its good adaptation to dry areas and semi-xerophitic conditions. It occurs on dead angiosperm branches, causing brown rot type decomposition (Drechsler-Santos et al. 2012a). Up to this study, 393 species for *Daedalea* are accepted in the Fungorum Index (CABI Bioscience Databases 2017).

According to Ryvarden and Johansen (1980), *Daedalea* genus is characterized by its perennial basidiomata; effuse-reflexed or sessile pileus; smooth to velvety with zonations and concentric grooves and hymenophore with irregular pores; ranging from dedaloide to lamellar,

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with various shades of brown or gray; dimytic system; absent cystidia, but with abundant skeletal hyphae that end protruding into the hymenium among the basidia; and oblong to cylindrical, hyaline, smooth, non-amyloid basidiospores.

Methods

The collections were carried out in 2014 at Sete Passagens State Park, municipality of Miguel Calmon, in Caatinga area. The basidiomata were collected on a tree trunk lying on the ground (*D. ryvardeniana*). Samples were taken to Agricultural Microbiology Laboratory at Universidade Federal do Recôncavo da Bahia. Macroscopic analysis consisted of the observation of basidiomata color, size and shape, and also of pore number per mm in the hymenophore and reaction with KOH 3%. Microscopic characterization was performed by means of free-hand sections of basidioma fragments and subsequent mounting on slides with 1% floxin + 3% KOH, 3% KOH, and Melzer reagent for the verification of dextrinoid and amyloid reactions. Photomicrographs were obtained under an optical microscope Leica® DM750 and photographed using a Leica® ICC50HD camera. Identification and morphological classification were done by consulting the specialized literature (Ryvarden and Johansen 1980, Drechsler-Santos et al 2012a).

Figure 1. Distribution of *Daedalea ryvardeniana* in the Caatinga and Brazilian Cerrado.

Results

New records. Brazil. Bahia: Miguel Calmon (11°23′ 52.43″ S, 040°33′01.21″ W), Sete Passagens State Park, 14.X.2015, C.D. Santos CD00028 (HURB 9092).

Daedalea ryvardeniana Drechsler-Santos & Robledo, Kurtziana 37 (1): 66 (2012)
Figure 2A–F

Known distribution. Caatinga areas in Bahia (present study), Ceará, Paraíba and Pernambuco, and Cerrado areas in Mato Grosso (Drechsler-Santos et al. 2012) (Fig. 1).

Comments. The specimen of *Daedalea ryvardeniana* studied morphologically corresponds to the original description of Drechsler-Santos and Robledo (2012a), with annual basidiomata; effuse-reflexed; slender; 0.3–1.5 cm thick; semicircular to labeliformed and imbricated pileus; reacting in contact with KOH, becoming dark; and homogeneous context with 0.7 cm of thickness. Hymenophore with angular to irregular-dedaloid pores, 1–5/mm, differing from the number of pores per millimeter (1–3/mm) reported by Drechsler-Santos and Robledo (2012). The hyphal-dimitic system with generative, clamped, thick-walled, irregular hyphae showing undulating winding lumen; basidiomata presenting skeletal hyphae, with the basal portion, more or less winding, geniculate, and the apical portion usually with 1–3 short branches. Cystids absent. Basidia clavate, 15–23 × 5–8 µm. Basidiospores (5–6 × 2–3 µm) smaller than those referred to in the original diagnosis (7.5–11.0 × 2.5–3.5 µm), ellipsoidal, smooth, hyaline, with a distinct ventral concavity on the apical side, conical apex and thin walls, KOH- and IKI-.

Discussion

The traditional concept of the genus *Daedalea* needs to be revaluated as pointed by Drechsler-Santos et al. (2012a) to accommodate species with dimitic hyphal system, like *D. aethalodes* (Mont.) Rajchenb, *D. stereoides* Fr. and *D. ryvardenica*. The integration of morphology, DNA sequencing, and biological features, as proposed by Rajchenberg (2011), will bring more light to understand the phylogeny of these species. The studied material was found on fallen trunks at a moderate decomposition stage. Drechsler-Santos et al. (2012a) found this same species on dead branches of angiosperms, under the same conditions, showing brown rot. The geographical distribution of *D. ryvardeniana* species in Caatinga domain is presently amplified.

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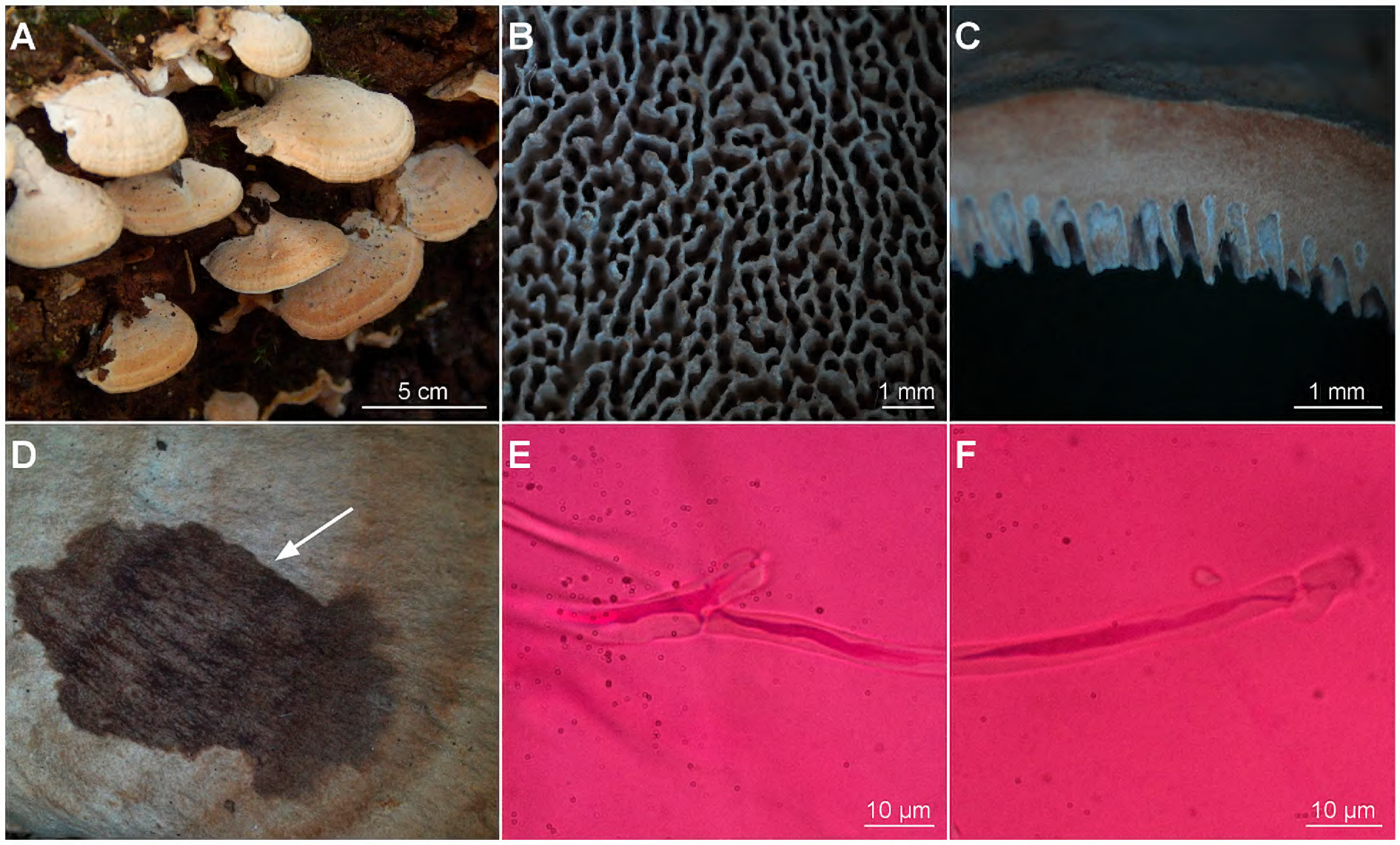

Figure 2. *Daedalea ryvardeniana* (HURB 9092). **A.** Basidiomas on substrate in the field. **B.** Detail of pore surface. **C.** Section showing context and tube layer. **D.** Positive reaction with KOH on the surface of the pileus (arrow). **E, F.** Generative hyphae with unevenly thickened walls.

ity in processing the deposited samples. They also thank Coordenação de Aperfeiçoamento Pessoal de Nível Superior (CAPES), Conselho Nacional de Desenvolvimento Científico (CNPq), and Fundação de Amparo à Pesquisa do Estado da Bahia (FAPESB) for financial support.

Authors' Contributions

CDS and ROS collected the material; CDS, ROS, and ACFS wrote the text; and CDS, ERDS, and JLB identified the species.

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